

In the Claims:

1     1.     (original) Tri-axial monolithic acceleration sensor (1),  
2           which comprises the following characteristic features:

3           a)    the acceleration sensor (1) consists of plural  
4                individual sensors (2a-d) with respectively a main  
5                sensitivity axis (11) arranged on a common  
6                substrate (8),

7           b)    each individual sensor (2a-d) is rotatably movably  
8                suspended on two torsion spring elements (4a-h) and  
9                comprises a seismic mass (3a-d) with a center of  
10               gravity ( $S_a$ ,  $S_b$ ,  $S_c$  and  $S_d$ ),

11          c)    each individual sensor (2a-d) comprises means for the  
12                measurement (10) of the deflection of the seismic mass  
13                (3a-d),

14          characterized in that

15          d)    the acceleration sensor (1) consists of at least three  
16                identical individual sensors (2a-d),

17          e)    each individual sensor (2a-d) is suspended  
18                eccentrically relative to its center of gravity ( $S_a$ ,  
19                 $S_b$ ,  $S_c$ ,  $S_d$ ) and

20          f)    is rotated relative to the other individual sensors  
21                (2a-d) by 90°, 180° or 270°.

1     2.     (original) Acceleration sensor according to claim 1,  
2           characterized in that the at least three identical  
3           individual sensors (2a-d) are arranged in a rectangle.

Claims 3 to 7 (canceled).

1    **8.**    (new) Acceleration sensor according to claim 1,  
2           characterized in that the substrate (8) is arranged between  
3           a lower cover disk (7) and an upper cover disk (9) for the  
4           sealing and for the protection against environmental  
5           influences.

1    **9.**    (new) Acceleration sensor according to claim 1,  
2           characterized in that a measurement of the deflection of  
3           each seismic mass (3a-d) is achieved by means of a  
4           differential capacitive measurement.

1    **10.** (new) Acceleration sensor according to claim 9,  
2           characterized in that metallized surfaces (10a-d) that are  
3           isolated from one another are structured on the upper cover  
4           disk (9) close to the torsion axis defined by the  
5           respective torsion spring element (4a-h) for the  
6           differential capacitive measurement.

1    **11.** (new) Acceleration sensor according to claim 10,  
2           characterized in that the surfaces (10a-d) are arranged  
3           symmetrically to the torsion axis defined by the respective  
4           torsion spring element (4a-h).

1    **12.** (new) Bi-axial monolithic acceleration sensor (1), that  
2           comprises the following characteristic features:

- a) the acceleration sensor (1) consists of two individual sensors (2a-d) with respectively a main sensitivity axis (11) arranged on a common substrate (8),
- b) each individual sensor (2a-d) is rotatably movably suspended on two torsion spring elements (4a-h) and comprises a seismic mass (3a-d) with a center of gravity ( $S_a$ ,  $S_b$ ,  $S_c$  and  $S_d$ ),
- c) each individual sensor (2a-d) comprises means for the measurement (10) of the deflection of the seismic mass (3a-d),
- characterized in that
- d) the acceleration sensor (1) consists of two identical individual sensors (2a-d),
- e) each individual sensor (2a-d) is suspended eccentrically relative to its center of gravity ( $S_a$ ,  $S_b$ ,  $S_c$ ,  $S_d$ ) and is rotated by  $180^\circ$  relative to the other individual sensor (2a-d) and
- f) the main sensitivity axis (11) of the one individual sensor (2a-d) extends vertically to the substrate (8) and the main sensitivity axis (11) of the other individual sensor (2a-d) extends vertically to the substrate (8).

13. (new) Acceleration sensor according to claim 12, characterized in that the substrate (8) is arranged between a lower cover disk (7) and an upper cover disk (9) for the sealing and for the protection against environmental influences.

1   **14.** (new) Acceleration sensor according to claim 12,  
2       characterized in that a measurement of the deflection of  
3       each seismic mass (3a-d) is achieved by means of a  
4       differential capacitive measurement.

1   **15.** (new) Acceleration sensor according to claim 14,  
2       characterized in that metallized surfaces (10a-d) that are  
3       isolated from one another are structured on the upper cover  
4       disk (9) close to the torsion axis defined by the  
5       respective torsion spring element (4a-h) for the  
6       differential capacitive measurement.

1   **16.** (new) Acceleration sensor according to claim 15,  
2       characterized in that the surfaces (10a-d) are arranged  
3       symmetrically to the torsion axis defined by the respective  
4       torsion spring element (4a-h).

**[AMENDMENT CONTINUES ON NEXT PAGE]**